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10/567,509	02/07/2006	**Phillipe Noelle**	H0005922	8537

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EXAMINER	
BAYOU, AMENE SETEGNE	
ART UNIT	**PAPER NUMBER**
3746	

NOTIFICATION DATE	DELIVERY MODE
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No.	Applicant(s)	
	10/567,509	NOELLE, PHILLIPE	
	Examiner	Art Unit	
	AMENE S. BAYOU	3746	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *28 June 2010*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-3,5-13,15-21,23-25,27-42,45 and 46* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-3,5-13,15-21,23-25,27-42,45 and 46* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *02/07/06* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 1-3,5-13,15-21, 23-25,27-42, 45,and 46 are rejected under 35 U.S.C. 103(a) as being unpatentable over Allen et al (6449950) in view of Mayleben et al. (6443715).

3. In re claims 1,10,23 , 32 and 45 Allen et al disclose an electrically assisted supercharger including:

Electric motor (having stator 82 and rotor 84) ,**in figure 1**,configured for accommodation by a turbocharger **center housing (20)** and configured to drive a **compressor wheel** accommodated in a **compressor housing (16)** via a **shaft (48)** supported by a bearing in the turbocharger center housing, the electric motor being supplied with electric power (inherently); **turbocharger ,in figure 1**,comprising a **compressor housing (16)** ,a **center housing (20)** and an **Electric motor (having stator 82 and rotor 84)**, further comprising a **turbine housing (12)** for accommodating a **turbine wheel (32)** driven by exhaust gas; a **center housing (20)** for accommodating the **shaft (48)** and the electric motor, the shaft serving as a rotor of the electric motor and extending from the **turbine wheel (32)** through the bearing and the electric motor to the compressor wheel; wherein the compressor wheel is driven by the turbine

wheel via the shaft and can additionally be driven by the electric motor. Allen et al ,however fail to disclose the specific location of the circuit board. But Mayleben et al teach a pumping apparatus including:

A circular printed board (131;figure 2 and 25) is disposed coaxial to a **volute (12)** of the compressor housing between **the volute (12)** and the **compressor wheel (26)** ;**motor plug connectors (137;figure 25)**are arranged at intervals on a circle around the axis of the electric motor **.Please note that 137 is described as MOSFET.Since MOSFET are used for switching electronic signals and also since in column 6,lines10-15 it is clearly described that they are meant for controlling the current flow to the motor and also based on the fact that they are designed as plug as shown in figure 5 they can be considered as motor plug connectors)**; and the **motor plug connectors (137)** are disposed on an axial side of the electric motor facing the compressor housing, and configured to electrically connect to the circular printed circuit board .It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the pump of Allen et al by installing a circuit board inside the compressor housing and relocating the motor plug connector at the axial side facing the compressor housing as taught by Mayleben et al since it facilitates assembly due to the fact that all the electronic components can all be integrated and installed on the PCB which is easily accessible from an axial side during assembly/disassembly .Please note that the term pump and compressor is

interchangeably used since both devices are considered similar for all practical purposes.

4. In re claims 2 ,Allen et al in view of Mayleben et al as applied to claim 1 disclose the claimed invention:

Mayleben et al disclose:

The motor plug connectors (137) are formed as a male plug connectors **(clearly shown in figure 25)** .

5. In re claim 3 , Allen et al in view of Mayleben et al as applied to claim 1 disclose the claimed invention except mentioning that the motor plug connectors are formed as female plug connectors. But Mayleben et al in figure 19 already disclose another female housing plug connector (141).Therefore it would have been obvious to one skilled in the art at the time the invention was made to change the connection from male type to female type based on design choice. The modification step only involves a duplication and also simple reversal of parts based on suitability and configuration.

6. In re claims 5 and 7,Allen et al in view of Mayleben et al as applied to claim 1 disclose the claimed invention:

Mayleben et al disclose:

The motor plug connectors are blade shaped and extend in an axial direction of the electric motor and the motor plug connectors are perpendicular to the radial direction of the electric motor **(figure 25) .** Please note that in regards to the limitation “blade shaped”, the structure shown in figure 25 can be considered as blade shaped since it contains sharp edges. If applicant intends to mean

differently examiner advises to amend the phrase with other phrase such as “aerodynamic shape".

7. In re claim 6 , Allen et al in view of Mayleben et al as applied to claim 5 disclose the claimed invention except mentioning that the motor plug connectors are slanted. But Mayleben et al in figure 19 already disclose another housing plug connector which is slanted with respect to the radial direction. It would have been obvious to one skilled in the art at the time the invention was made to modify the motor plug connectors of Allen et al in view of Mayleben et al by making them slanted as taught by Allen et al since easy and safe locked connection can be made by turning the plugs. The modification step only involves a duplication.

8. In re claim 8, Allen et al in view of Mayleben et al as applied to claim 1 disclose the claimed invention except mentioning that there are six plug connectors. It would have been obvious to one skilled in the art at the time the invention was made to make plural connections as desired (such as phase or other factors) since this is a mere duplication and it has been held that mere duplication of the essential working parts of a device involves only routine skill in the art. St. *Regis Paper Co. v. Bemis Co., 193 USPQ 8.*

9. In re claim 9, Allen et al in view of Mayleben et al as applied to claim 1 disclose the claimed invention since the motor plug connectors (137;figure 25) penetrate the electric motor cartridge (plugs 137 are plugged to holes 139 located on the motor; see figures 25 and 19).

10. In re claim 46, Allen et al in view of Mayleben et al as applied to claim 1 disclose the claimed invention

Allen et al disclose:

Turbocharger ,in figure 1,comprising a compressor housing (16) ,a center housing (20) and an Electric motor (having stator 82 and rotor 84), further comprising a turbine housing (12) for accommodating a turbine wheel (32) driven by exhaust gas; a center housing (20) for accommodating the shaft (48) and the electric motor, the shaft serving as a rotor of the electric motor and extending from the turbine wheel (32) through the bearing and the electric motor to the compressor wheel; wherein the compressor wheel is driven by the turbine wheel via the shaft and can additionally be driven by the electric motor.

11. In re claim 10, Allen et al in view of Mayleben et al disclose the claimed invention:

Allen et al disclose:

Compressor housing (16) ,in figure 1, for accommodating a compressor wheel drivable by an **Electric motor (having stator 82 and rotor 84)** via a shaft connected to the compressor wheel, at least one main power plug connector connectable to an electric power source (inherently) ; and at least one housing plug connector electrically connected to a respective one of the at least one main power plug connector for supplying electric motor with electric power (inherently).

Mayleben et al teach:

A circular printed board (131;figure 2) is disposed between **a volute (12)** and the **compressor wheel (26)** ;at least one main **motor plug connector (137;figure 25)** electrically connected to the circuit board and connectable to an electric power source ;and **housing plug connectors (141)** electrically connected to the circular printed circuit board and electrically connected to at least one of the at least one main power plug connector for supplying the electric motor with electric power **(figure 19 and column 6,lines 19-24)**;wherein the housing plug connectors are disposed on an axial side of the compressor housing ,facing the electric motor arranged by intervals on a circle around the axis of the compressor housing .

12. In re claims 11 ,Allen et al in view of Mayleben et al as applied to claim 10 disclose the claimed invention:

Mayleben et al disclose:

The housing plug connectors **(141)** are formed as female plug connectors **(figure 19)**.

13. In re claim 12 , Allen et al in view of Mayleben et al as applied to claim 10 disclose the claimed invention except mentioning that the motor plug connectors are formed as male plug connectors. But Allen et al in figure 25 already disclose another male housing plug connector (137).Therefore it would have been obvious to one skilled in the art at the time the invention was made to change the connection from female type to male type based on design choice. The modification step only involves a duplication and also simple reversal of parts based on suitability and configuration.

14. In re claims 13 ,Allen et al in view of Mayleben et al as applied to claim 11 disclose the claimed invention:

Mayleben et al disclose:

The at least one main power plug connector is connected to at least one of the housing plug connectors via the printed circuit board **(column 6,lines 19-24).**

15. In re claims 15 ,Allen et al in view of Mayleben et al as applied to claim 13 disclose the claimed invention:

Mayleben et al disclose:

A plurality of main plug connectors is arranged as a bundle on the side of the printed circuit board opposite to the side where the housing connectors are disposed **(figure 19,25; column 6,lines 19-24)**

16. In re claims 16 and 18,Allen et al in view of Mayleben et al as applied to claim 15 disclose the claimed invention:

Mayleben et al disclose:

The housing plug connectors are slot shaped and extend in an axial direction of the compressor housing **,** and the housing plug connectors are perpendicular to the radial direction of the compressor housing**;(clearly shown in figures 2 and 19)** .

17. In re claim 17 , Allen et al in view of Mayleben et al as applied to claim 16 disclose the claimed invention except mentioning that the motor plug connectors are slanted. But Mayleben et al in figure 19 already disclose another housing plug connector which is slanted with respect to the radial direction. It would have been obvious to one skilled in the art at the time the invention was made to

modify the motor plug connectors of Allen et al in view of Mayleben et al by making them slanted as taught by Allen et al since easy and safe locked connection can be made by turning the plugs. The modification step only involves a duplication.

18. In re claim 19, Allen et al in view of Mayleben et al as applied to claim 16 disclose the claimed invention except mentioning that there are six plug connectors. It would have been obvious to one skilled in the art at the time the invention was made to make plural connections as desired (such as phase or other factors) since this is a mere duplication and it has been held that mere duplication of the essential working parts of a device involves only routine skill in the art. St. *Regis Paper Co. v. Bemis Co., 193 USPQ 8.*

19. In re claims 20 and 21,Allen et al in view of Mayleben et al as applied to claim 15 disclose the claimed invention:

Mayleben et al disclose:

The printed circuit board is provided with at least one track (inherently) for connecting each of the main power plug connectors to the respective one of the housing plug connectors ;the printed circuit board is provided with three tracks **(figure 25).**

20. In re claims 23, Allen et al in view of Mayleben et al disclose the claimed invention:

Allen et al disclose:

Turbocharger ,in figure 1,comprising an **Electric motor (having stator 82 and rotor 84)**, for driving a compressor wheel accommodated in a **compressor housing (16)** , electric motor being supplied with electric power through at least one motor plug connector (inherently), further comprising a **turbine housing (12)** for accommodating a **turbine wheel (32)** driven by exhaust gas; a **center housing (20)** for accommodating a **shaft (48)** and the electric motor, and extending from the **turbine wheel (32)** through a journal bearing and the electric motor to the compressor wheel; wherein the compressor wheel is driven by the turbine wheel via the shaft and can additionally be driven by the electric motor,

Mayleben et al teach :

Motor plug connectors (137) are disposed on an axial side of the electric motor ,facing the compressor housing; **the motor plug connectors (137)** are arranged at intervals on a circle around the axis of the electric motor and configured to electrically connect with **a circular printed board (131;figure 2 and 25)** disposed between a volute of the compressor housing and the compressor wheel.

21. In re claims 24,Allen et al in view of Mayleben et al as applied to claim 23 disclose the claimed invention:

Mayleben et al disclose:

The motor plug connectors (137) are formed as a male plug connectors **(clearly shown in figure 25)** .

22. In re claim 25 , Allen et al in view of Mayleben et al as applied to claim 23 disclose the claimed invention except mentioning that the motor plug connectors are formed as female plug connectors. But Mayleben et al in figure 19 already disclose another female housing plug connector (141).Therefore it would have been obvious to one skilled in the art at the time the invention was made to change the connection from male type to female type based on design choice. The modification step only involves a duplication and also simple reversal of parts based on suitability and configuration.

23. In re claims 27 and 29,Allen et al in view of Mayleben et al as applied to claim 23 disclose the claimed invention:

Mayleben et al disclose:

The motor plug connectors are blade shaped and extend in an axial direction of the electric motor and the motor plug connectors are perpendicular to the radial direction of the electric motor **(figure 25) .** Please note that in regards to the limitation “blade shaped”, the structure shown in figure 25 can be considered as blade shaped since it contains sharp edges. If applicant intends to mean differently examiner advises to amend the phrase with other phrase such as “aerodynamic shape".

24. In re claim 28 , Allen et al in view of Mayleben et al as applied to claim 27 disclose the claimed invention except mentioning that the motor plug connectors are slanted. But Mayleben et al in figure 19 already disclose another housing plug connector which is slanted with respect to the radial direction. It would have been obvious to one skilled in the art at the time the invention was made to

modify the motor plug connectors of Allen et al in view of Mayleben et al by making them slanted as taught by Allen et al since easy and safe locked connection can be made by turning the plugs. The modification step only involves a duplication.

25. In re claim 30, Allen et al in view of Mayleben et al as applied to claim 23 disclose the claimed invention except mentioning that there are six plug connectors. It would have been obvious to one skilled in the art at the time the invention was made to make plural connections as desired (such as phase or other factors) since this is a mere duplication and it has been held that mere duplication of the essential working parts of a device involves only routine skill in the art. St. *Regis Paper Co. v. Bemis Co., 193 USPQ 8*.

26. In re claim 31, Allen et al in view of Mayleben et al as applied to claim 23 disclose the claimed invention since the motor plug connectors (137;figure 25) penetrate the electric motor cartridge (plugs 137 are plugged to holes 139 located on the motor; see figures 25 and 19).

27. In re claim 32 , Allen et al in view of Mayleben et al disclose the claimed invention:

Allen et al disclose:

Turbocharger ,in figure 1,comprising a **compressor housing (16)** for accommodating a compressor wheel drivable by an **Electric motor (having stator 82 and rotor 84)**, further comprising a **turbine housing (12)** for accommodating a **turbine wheel (32)** driven by exhaust gas; a **center**

housing (20) for accommodating a **shaft (48)** and the electric motor, and extending from the **turbine wheel (32)** through a journal bearing and the electric motor to the compressor wheel; wherein the compressor wheel is driven by the turbine wheel via the shaft and can additionally be driven by the electric motor, the compressor housing further comprises at least one main power plug connector connectable to an electric power source (inherently),

Mayleben et al teach :

A circular printed board (131;figure 2) is disposed between **a volute (12)** and the **compressor wheel (26)** ;at least one main **motor plug connector (137;figure 25)** electrically connected to the circuit board and connectable to an electric power source ;and **housing plug connectors (141)** electrically connected to the circular printed circuit board and electrically connected to at least one of the at least one main power plug connector for supplying the electric motor with electric motor **(figure 19 and column 6,lines 19-24)**;wherein the housing plug connectors are disposed on an axial side of the compressor housing ,facing the electric motor arranged by intervals on a circle around the axis of the compressor housing ,

28. In re claim 33,Allen et al in view of Mayleben et al as applied to claim 32 disclose the claimed invention:

Mayleben et al disclose:

The housing plug connectors (141) are formed as female plug connectors **(figure 19)**.

29. In re claim 34 , Allen et al in view of Mayleben et al as applied to claim 32 disclose the claimed invention except mentioning that the motor plug connectors are formed as male plug connectors. But Allen et al in figure 25 already disclose another male housing plug connector (137).Therefore it would have been obvious to one skilled in the art at the time the invention was made to change the connection from female type to male type based on design choice. The modification step only involves a duplication and also simple reversal of parts based on suitability and configuration.

30. In re claim 35,Allen et al in view of Mayleben et al as applied to claim 33 disclose the claimed invention:

Mayleben et al disclose:

The at least one main power plug connector is connected to at least one of the housing plug connectors via the printed circuit board **(column 6,lines 19-24).**

31. In re claim 36,Allen et al in view of Mayleben et al as applied to claim 32 disclose the claimed invention:

Mayleben et al disclose:

The housing plug connectors (141) are arranged by equal intervals on a circle around the axis of the compressor housing, figure 19.

32. In re claim 37 ,38 and 40 Allen et al in view of Mayleben et al as applied to claim 36 disclose the claimed invention:

Mayleben et al disclose:

A plurality of main plug connectors is arranged as a bundle on the side of the printed circuit board opposite to the side where the housing connectors are disposed **(figure 19,25; column 6,lines 19-24)** and the housing plug connectors are slot shaped and extend in an axial direction of the compressor housing , and the housing plug connectors are perpendicular to the radial direction of the compressor housing**;(clearly shown in figures 2 and 19) .**

33. In re claim 39 , Allen et al in view of Mayleben et al as applied to claim 38 disclose the claimed invention except mentioning that the motor plug connectors are slanted. But Allen et al in figure 19 already disclose another housing plug connector which is slanted with respect to the radial direction. It would have been obvious to one skilled in the art at the time the invention was made to modify the motor plug connectors of Allen et al in view of Mayleben et al by making them slanted as taught by Allen et al since easy and safe locked connection can be made by turning the plugs. The modification step only involves a duplication.

34. In re claim 41, Allen et al in view of Mayleben et al as applied to claim 38 disclose the claimed invention except mentioning that there are six plug connectors. It would have been obvious to one skilled in the art at the time the invention was made to make plural connections as desired (such as phase or other factors) since this is a mere duplication and it has been held that mere duplication of the essential working parts of a device involves only routine skill in the art. St. *Regis Paper Co. v. Bemis Co., 193 USPQ 8.*

35. In re claim 42, Allen et al in view of Mayleben et al as applied to claim 37 disclose the claimed invention since Mayleben et al disclose that the printed circuit board is provided with at least one track (inherently) for connecting each of the main power plug connectors to the respective one of the housing plug connectors (at least the printed circuit board is provided with three tracks as shown in figure 25).

36. In re claim 45, Allen et al in view of Mayleben et al disclose the claimed invention:

Allen et al disclose:

Turbocharger ,in figure 1,comprising a **compressor housing (16)** for accommodating a compressor wheel drivable by an **Electric motor (having stator 82 and rotor 84)**, the electric motor being supplied (inherently) with electric motor ;further comprising a **turbine housing (12)** for accommodating a **turbine wheel (32)** driven by exhaust gas; a **center housing (20)** for accommodating a **shaft (48)** and the electric motor, and extending from the **turbine wheel (32)** through a journal bearing (50,56) and the electric motor to the compressor wheel; wherein the compressor wheel is driven by the turbine wheel via the shaft and can additionally be driven by the electric motor, the compressor housing further comprises at least one main power plug connector connectable to an electric power source (inherently),

Mayleben et al teach :

A circular printed board (131;figure 2) is disposed between **a volute (12)** and the **compressor wheel (26)** ;at least one main **motor plug connector**

(137;figure 25) electrically connected to the circuit board and connectable to an electric power source ;and **housing plug connectors (141)** electrically connected to the circular printed circuit board and electrically connected to at least one of the at least one main power plug connector for supplying the electric motor with electric motor **(figure 19 and column 6,lines 19-24)**;wherein the housing plug connectors are disposed on an axial side of the compressor housing ,facing the electric motor arranged by intervals on a circle around the axis of the compressor housing .

Response to Arguments

37. Applicant's arguments filed 06/28/10 have been fully considered but they are not persuasive.

38. In re claims 1,10,23,32 and 45 applicant on page 4 argued that the Mayleban reference fails to show a circuit board between the volute and the compressor wheel and also does not disclose plug connectors. Applicant also asserted that Mayleban's disclosure is confusing and it is not clear how the three motor leads are connected and would require inappropriate assumptions.

Responding to applicant's argument:

Mayleben et al in figure 1 disclose a circuit board (131) between the volute (12) and the compressor wheel. Please note that the conical part 15 is considered to be part of the wheel and thus the circuit board is located in between the volute and the wheel both axially and radially. Mayleban in column 6, lines 1-17 as quoted below also clearly disclose the way the motor leads are connected. FIG. 25 shows a generally flat annular printed circuit board 131 having

a plurality of circumferentially-spaced screw receiving slots 133 therein for receiving screws to secure board 131 to posts 148 on stator assembly D. Three spaced-apart Hall effect sensors 135 are attached to the inner periphery of board 131 so that they are located in very close proximity to and aligned with the upper end of permanent magnet motor ring 20 on impeller C for use in controlling current flow to the three-phase coil assembly on the stator for operating the motor. Three MOSFETS 137 extend from board 131 and are received in openings 139 of FIGS. 17 and 19 in the plastic material housing for stator D for controlling current to the stator coils. Circuitry on the printed circuit board, along with a microprocessor, responds to input from the float switches, Hall effect sensor, MOSFETS and other input controls to control operation of the brushless permanent magnet motor. The float switches are connected with the circuit board ***in a known manner***. In addition please note that Even if a reference discloses an inoperative device, it is prior art for all that it teaches." Beckman Instruments v. LKB Produkter AB, 892 F.2d 1547, 1551, 13 USPQ2d 1301, 1304 (Fed. Cir. 1989). Therefore, "a non-enabling reference may qualify as prior art for the purpose of determining obviousness under 35 U.S.C. 103." Symbol Techs.Inc. v. Opticon Inc., 935 F.2d 1569, 1578, 19 USPQ2d 1241, 1247 (Fed. Cir. 1991).

Conclusion

39. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37CFR 1.136(a).]

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Amene S. Bayou whose telephone number is 571-270-3214. The examiner can normally be reached on Monday-Thursday, 8:00 am-5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Devon Kramer can be reached on 571-272-7118. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system.

Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Devon C Kramer/
Supervisory Patent Examiner, Art Unit 3746

/Amene S Bayou/

Examiner, Art Unit 3746